

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: METALUX

Report Number: P260650

Luminaire Tested: **24CZ-LD5-50-UNV-L93050-W2A1-U-4500K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P260650
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P25697)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ-LD5-50-UNV-L93050-W2A1-U-4500K
Description: CRUZE 2x4 TUNABLE WHITE LED TROFFER WITH RIBBED LENS
Light Source: (336) 90 CRI LEDS TUNED AT 4500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4694.3 lumens
Efficiency: N/A
Efficacy: 126.1 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.25 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

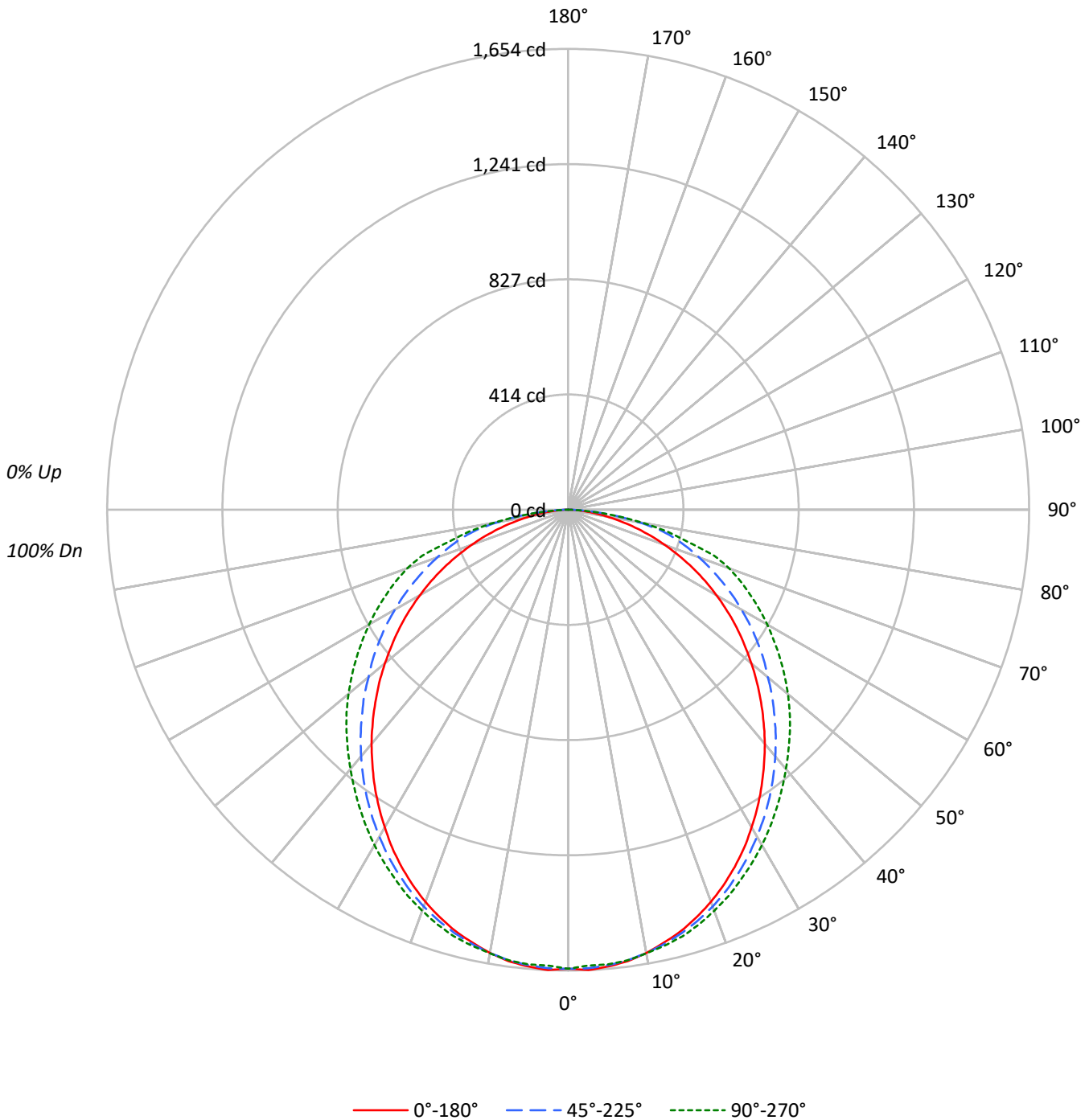
Input Watts (W): 37.211904
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P260650

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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| RF | 20 | | | | 20 | | | | 20 | | | | 20 | | | | 20 | |
| RC | 80 | | | | 70 | | | | 50 | | | | 30 | | | | 10 | 0 |
| RW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |
| RCR | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1 | 108 | 103 | 99 | 95 | 106 | 101 | 97 | 93 | 97 | 93 | 90 | 93 | 90 | 88 | 89 | 87 | 85 | 83 |
| 2 | 98 | 90 | 83 | 77 | 95 | 88 | 81 | 76 | 84 | 79 | 74 | 81 | 76 | 72 | 78 | 74 | 71 | 68 |
| 3 | 89 | 78 | 70 | 63 | 87 | 77 | 69 | 63 | 74 | 67 | 62 | 71 | 65 | 61 | 68 | 64 | 60 | 57 |
| 4 | 82 | 69 | 60 | 54 | 79 | 68 | 60 | 53 | 66 | 58 | 52 | 63 | 57 | 52 | 61 | 56 | 51 | 49 |
| 5 | 75 | 62 | 53 | 46 | 73 | 61 | 52 | 46 | 59 | 51 | 45 | 57 | 50 | 45 | 55 | 49 | 44 | 42 |
| 6 | 69 | 56 | 47 | 40 | 67 | 55 | 46 | 40 | 53 | 45 | 40 | 51 | 44 | 39 | 50 | 44 | 39 | 37 |
| 7 | 64 | 51 | 42 | 35 | 63 | 50 | 41 | 35 | 48 | 41 | 35 | 47 | 40 | 35 | 45 | 39 | 35 | 32 |
| 8 | 60 | 46 | 38 | 32 | 58 | 45 | 37 | 32 | 44 | 37 | 31 | 43 | 36 | 31 | 42 | 36 | 31 | 29 |
| 9 | 56 | 42 | 34 | 28 | 54 | 42 | 34 | 28 | 41 | 33 | 28 | 40 | 33 | 28 | 38 | 32 | 28 | 26 |
| 10 | 52 | 39 | 31 | 26 | 51 | 39 | 31 | 26 | 38 | 31 | 26 | 37 | 30 | 25 | 36 | 30 | 25 | 24 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 2217 | 2217 | 2217 |
| 5° | 2223 | 2216 | 2212 |
| 10° | 2207 | 2207 | 2209 |
| 15° | 2181 | 2192 | 2208 |
| 20° | 2145 | 2170 | 2193 |
| 25° | 2100 | 2140 | 2176 |
| 30° | 2045 | 2105 | 2160 |
| 35° | 1988 | 2070 | 2144 |
| 40° | 1928 | 2030 | 2134 |
| 45° | 1862 | 1991 | 2141 |
| 50° | 1797 | 1958 | 2153 |
| 55° | 1730 | 1946 | 2175 |
| 60° | 1652 | 1933 | 2219 |
| 65° | 1566 | 1934 | 2293 |
| 70° | 1448 | 1967 | 2415 |
| 75° | 1295 | 2056 | 2298 |
| 80° | 1083 | 1967 | 2104 |
| 85° | 818 | 1513 | 1439 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 155.7 | 3.3 |
| 10°-20° | 443.1 | 9.4 |
| 20°-30° | 662.4 | 14.1 |
| 30°-40° | 785.8 | 16.7 |
| 40°-50° | 808.8 | 17.2 |
| 50°-60° | 742.0 | 15.8 |
| 60°-70° | 599.9 | 12.8 |
| 70°-80° | 389.3 | 8.3 |
| 80°-90° | 107.3 | 2.3 |
| 90°-100° | 0.0 | 0.0 |
| 100°-110° | 0.0 | 0.0 |
| 110°-120° | 0.0 | 0.0 |
| 120°-130° | 0.0 | 0.0 |
| 130°-140° | 0.0 | 0.0 |
| 140°-150° | 0.0 | 0.0 |
| 150°-160° | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-30° | 1261.1 | 26.9 |
| 0°-40° | 2046.9 | 43.6 |
| 0°-60° | 3597.7 | 76.6 |
| 0°-90° | 4694.3 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 4694.3 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1647 | 1647 | 1647 | 1647 | 1647 | |
| 5° | 1646 | 1635 | 1641 | 1639 | 1638 | 156 |
| 15° | 1566 | 1559 | 1574 | 1580 | 1585 | 441 |
| 25° | 1414 | 1416 | 1442 | 1455 | 1466 | 651 |
| 35° | 1210 | 1220 | 1260 | 1287 | 1305 | 757 |
| 45° | 979 | 995 | 1046 | 1096 | 1125 | 755 |
| 55° | 738 | 760 | 829 | 897 | 927 | 659 |
| 65° | 492 | 521 | 608 | 688 | 720 | 486 |
| 75° | 249 | 296 | 395 | 442 | 442 | 265 |
| 85° | 53 | 90 | 98 | 95 | 93 | 65 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P260650

CATALOG NUMBER: 24CZ-LD5-50-UNV-L93050-W2A1-U-4500K

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1647.4 | 1647.4 | 1647.4 | 1647.4 | 1647.4 |
| 2.5° | 1653.9 | 1641.0 | 1647.4 | 1645.8 | 1637.8 |
| 5° | 1645.8 | 1634.6 | 1641.0 | 1639.4 | 1637.8 |
| 7.5° | 1634.6 | 1623.3 | 1631.4 | 1629.8 | 1631.4 |
| 10° | 1615.3 | 1605.7 | 1615.3 | 1616.9 | 1616.9 |
| 12.5° | 1591.2 | 1583.2 | 1596.0 | 1599.2 | 1602.4 |
| 15° | 1565.5 | 1559.0 | 1573.5 | 1579.9 | 1584.8 |
| 17.5° | 1533.3 | 1528.5 | 1546.2 | 1554.2 | 1560.7 |
| 20° | 1498.0 | 1496.4 | 1515.7 | 1523.7 | 1531.7 |
| 22.5° | 1457.8 | 1457.8 | 1480.3 | 1489.9 | 1501.2 |
| 25° | 1414.4 | 1416.0 | 1441.7 | 1454.6 | 1465.8 |
| 27.5° | 1367.8 | 1369.4 | 1399.9 | 1416.0 | 1428.9 |
| 30° | 1316.4 | 1322.8 | 1354.9 | 1375.8 | 1390.3 |
| 32.5° | 1264.9 | 1273.0 | 1308.3 | 1332.4 | 1348.5 |
| 35° | 1210.3 | 1219.9 | 1260.1 | 1287.4 | 1305.1 |
| 37.5° | 1154.0 | 1165.3 | 1208.7 | 1239.2 | 1260.1 |
| 40° | 1097.8 | 1110.6 | 1155.6 | 1191.0 | 1215.1 |
| 42.5° | 1038.3 | 1052.8 | 1102.6 | 1144.4 | 1170.1 |
| 45° | 978.8 | 994.9 | 1046.3 | 1096.2 | 1125.1 |
| 47.5° | 919.4 | 938.6 | 993.3 | 1047.9 | 1078.5 |
| 50° | 858.3 | 877.6 | 935.4 | 998.1 | 1028.7 |
| 52.5° | 797.2 | 819.7 | 884.0 | 948.3 | 978.8 |
| 55° | 737.7 | 760.2 | 829.4 | 896.9 | 927.4 |
| 57.5° | 676.7 | 699.2 | 774.7 | 845.4 | 876.0 |
| 60° | 614.0 | 639.7 | 718.4 | 790.8 | 824.5 |
| 62.5° | 552.9 | 580.2 | 663.8 | 741.0 | 773.1 |
| 65° | 491.8 | 520.8 | 607.5 | 687.9 | 720.1 |
| 67.5° | 429.1 | 462.9 | 552.9 | 634.9 | 668.6 |
| 70° | 368.1 | 405.0 | 499.9 | 581.8 | 614.0 |
| 72.5° | 308.6 | 348.8 | 446.8 | 530.4 | 549.7 |
| 75° | 249.1 | 295.7 | 395.4 | 442.0 | 442.0 |
| 77.5° | 192.9 | 244.3 | 337.5 | 355.2 | 364.8 |
| 80° | 139.8 | 196.1 | 253.9 | 274.8 | 271.6 |
| 82.5° | 93.2 | 149.5 | 181.6 | 181.6 | 176.8 |
| 85° | 53.0 | 90.0 | 98.0 | 94.8 | 93.2 |
| 87.5° | 22.5 | 33.8 | 30.5 | 24.1 | 20.9 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)